In the Specification

Please substitute the following annotated paragraph for paragraph [0005], beginning on page 2 of the specification:

FIG. 1 shows a typical distribution of Asynchronous Digital Subscriber Line (ADSL) broadband access to multiple hosts through a single customer premise access device. An ADSL modem 102 of a ~~server~~ <u>service</u> provider 104 is connected to a client-side ADSL modem 106 at a particular location through a telephone connection 107, which is typically implemented as twisted pair telephone wire. As an example, FIG. 1 shows that the particular location has two separate customers. A first customer 108 and a second customer 110 both receive broadband connectivity from the client-side ADSL modem 106. The client-side ADSL modem 106 is a single customer premise access device, which provides access to the first customer 108 through a first gateway 112 and to the second customer 110 through a second gateway 114. The first customer 108 has an internal Ethernet network 116, and the second customer 110 has an internal Ethernet network 118.

Please substitute the following annotated paragraph for paragraph [0021], which was amended in Applicant's previous amendment:

FIG. 5 shows the usage of a plurality of buffers internal to a gateway, such as the gateway 112 shown in FIG. 1, which are used when fragmenting the incoming IP packet according to the present invention. A 14-byte outgoing Ethernet header (Eth) and an 8-byte PPPoE header for the first outgoing PPPoE frame 408 are generated and stored in Buffer 1. The original 20-byte IP header of the incoming IP packet 400 has the MF, Offset, Length, and Checksum fields modified in accordance with the 8-bytes of the first

fragment (Fragment 1), which are stored in the first buffer. After transmitting the first outgoing PPPoE frame 408 (i.e. at the Copy point in FIG. 5), a new Ethernet header and a new PPPoE header are generated for the second outgoing PPPoE frame 410. Additionally, the first outgoing IP sub-header stored in the first buffer needs to have the MF, Offset, Length, and Checksum fields modified in accordance with the remaining 1472-bytes stored in Buffers 1 to 12 as Fragment 2. The new Ethernet header, the new PPPoE header, the second outgoing IP sub-header, and the first 78-bytes of Fragment 2 are ~~transmit~~ transmitted as the beginning of the second outgoing PPPoE frame 410. At this point, the information stored in the first buffer (Buffer 1) is no longer needed and can be freed for use in storing a next incoming packet. Continuing, the next 128-bytes of Fragment 2 stored in the second buffer (Buffer 2) are ~~transmit~~ transmitted. As soon as the data in the second buffer (Buffer 2) has been transmitted, Buffer 2 can be freed for use. This process continues for the remaining buffers (Buffer 3 to Buffer 12) with each buffer being freed immediately after having its data transmitted. This is more efficient than the prior art, which requires the information in all the buffers to be stored until the data in the last buffer has been transmitted.